

12 RADIO STATIONS ARE WORLD'S LIMIT

Air Path Will Not Carry More Waves Without Their Conflicting.

SOON TO ENCIRCLE GLOBE

Dr. Alexanderson Sees Communication With China and Australia.

The development of wireless telegraphy to a point where communication between Australia and Canada or New York and Pekin will be as usual as telephone messages between New York and Brooklyn is by no means merely a matter of erecting powerful stations.

Ernst F. W. Alexanderson, consulting engineer of the General Electric Company and one of the foremost radio engineers in the United States, made this clear last night in an address before members of the American Institute of Electrical Engineers and the Institute of Radio Engineers in the Engineering Societies Building, at 29 West Thirty-third street.

Dr. Alexanderson was optimistic concerning the final development of radio communication to a point where the means of communication will be world wide and world encompassing, but merely pointed out that there are problems in the way which must be solved by the engineers of to-day. The growth of the radio during the war, and especially of the long distance radio, has complicated the use, since "space in the ether" is not inexhaustible, and in fact for long distance messages already has been taken up.

"It has already become generally known that a new highway for world traffic has been opened up through the development of transatlantic radio communication," he said. "It is now a matter of history that radio was largely used for communication between the United States and armies in Europe, and that the great war was brought to a close by negotiations conducted by radio, which led to the signing of the armistice and an international commerce of unprecedented scope, but lack adequate means for communication."

Service Is Reliable.

The war demonstrated that transatlantic communication, wonderful as it was considered a few years ago, was thoroughly reliable every day, and year and practically every hour in the day, he pointed out. But the question which now engrosses the radio experts is the volume of traffic which can be handled by the present means at the world's disposal, and what may be demanded of radio communication in the great world traffic of the future.

"Experience has shown that the wave lengths which are most suited for transatlantic communication are between 12,000 and 17,000 meters," he said. "Space in the ether" has already been taken up by five first class transmitting stations, which must have the "right of way" through the ether. And in continuous service for transatlantic communication. Of these stations two are in the United States, one in England, one in France and one in Germany. By extending the range of wave lengths down to 10,000 and up to 20,000 meters, and following the same system of individual wave lengths, there would be room for about seven more stations or a total of twelve first class transmitting stations.

Reduced to non-technical language, a first-class wireless station, that is one having such radiating or sending power that its message can be received in all parts of the world, must have the "right of way" through the ether. Any other station using the same wave length for sending would conflict with the first station and its messages would be unintelligible.

Twelve Stations Is Limit.

"Thus, if we took at the matter pessimistically, without allowance for the improvement that further scientific developments are likely to bring, it would look as if the capacity of the world for first-class radio stations would be about twelve, and that the transmission at the present time from these stations is about twenty words a minute and it would thus be easy to figure out that the capacity of the world for handling any considerable portion of world communication would be totally inadequate."

The methods of combating this problem are pointed out by Dr. Alexanderson: increase in speed of transmission of messages, improved methods of directing the wave to prevent it from conflicting with waves of similar length, and a finer or closer spacing of wave lengths.

The predicting speed of the future will average 100 words a minute, he declared, as experiments have shown such speed possible. The improved wave direction will multiply by five the number of stations which use the same wave length, and the better spacing of wave lengths will result in wave lengths within 1 per cent. of each other, instead of 1 per cent. as the case now. Thus these prospects in combination will give a possible capacity for transmitting messages 175 times as great as is the case to-day.

CHAMBERMAID GETS TINIEST TIP OF ALL

Men Hotel Employees Better Paid Than Women.

WASHINGTON, Oct. 1.—Hotel guests pay far larger tips to bellhops and waiters than to chambermaids, according to estimates of managers of 153 hotels reported to the September Labor Review of the Department of Labor. The figures show male receive average tips of only from 11 to 18 cents a day, as compared with \$1.27 to \$2.75 for bellmen, and from \$1.16 to \$3.67 for waiters.

The difference in the tips makes the real income of male less than bellmen, although the average daily rate of wages is \$1.23 for the male and 86 cents for the female.

The report shows that men working in hotels and restaurants outnumber women in occupations usually regarded as women's work. Of the 40,000 employees counted in these vocations 24,000 are men. Of the cooks 9 per cent. are women, of the dishwashers 40 per cent. are women, and of the kitchen help 37 per cent. are women.

A striking contrast between the wages paid to men and women is shown by the report, which is said to be the first ever prepared on a nationwide scale for the hotel business. Thus twenty-four men cooks are paid \$10 a day, while only one woman receives as much as \$6 a day. The largest group of men cleaners receives \$2 a day, women \$1.

Girl Killed in Springfield Fire.

SPRINGFIELD, Mass., Oct. 1.—One life was lost in a fire that destroyed a three-story wooden store and tenement block in the Indian Orchard district early today. Miss Helen Andrews, 19, was suffocated. Her family kept a small store in the building and she was asleep in a tenement above it. Members of the fire department living in the block escaped with the exception of Miss Andrews.

HAVANA PREPARES FOR NEW YORKERS

Unusual Plans Being Made for Winter Tourists.

Cyclonic seas held back the Warder Mexico, in yesterday from Havana, more than fourteen hours, and her sister ship, the Monterey, which sailed from the Cuban capital several hours later, was forced to put into Norfolk. The British brought twelve survivors of the British steamer Baywater, which foundered on September 12 in the Gulf hurricane. The men, who are destitute, will be sent to England by the British Consulate.

Six Cuban children—boy and girl students bound for schools in this country and Canada—were held aboard the Mexico because they are unaccompanied by parents or guardians. It is probable they will be permitted to land after examination by a special board of inquiry from Ellis.

Wealthy Cubans aboard the Mexico said the trend of travel from now on until next spring would be toward Cuba, and that the Havana hotels are making unusual preparations to receive throngs of Americans, especially New Yorkers, who were expected to seek solace to their constitutions that would not jibe with the prohibitions of the United States Constitution.

Otto Praeger, Second Assistant Post-Office General, who has been visiting Cuba in the interest of the transportation, said arrangements for an air route between Key West and Havana had not been completed. He understood that the Cuban-American Aerial Line, and that were true the United States probably would send mail by it if it could guarantee regular delivery.

HUNGARY SOLUTION WAITS ON FIUME

Continued from First Page.

tion of a peace with that country, is much overshadowed by the Fiume complications, since the Italians are quite patently unwilling to take any action which might be offensive to Rumania, and a large portion of French officialdom is apparently supporting the Italians in this inaction. As a result the British and American members of the Supreme Council are the only ones who are insisting that Rumania must cease its meddling in Hungary. The Hungarian Government may be established with which peace can be negotiated.

Rumanian, Italian and French officials are constantly reminding publicly that they are anxious to carry out the wishes of the Supreme Council concerning Hungary. There is, however, a persistent disposition to postpone any action until the organization of a new government in Hungary and minor officials of several great powers are expected to visit the Rumanians and creating the impression that statements of the Supreme Council are only made for political reasons and are not intended to be acted upon.

There is grave doubt whether certain powers are making any attempt to enforce the decision of the Supreme Council. Officials in the Balkans are apparently making little effort to carry out their instructions.

SENATE WILL GET REPORT ON TRAUM

Interest as to Why U. S. Warships Were Involved.

Special Despatch to The Sun.

WASHINGTON, Oct. 1.—In response to the Senate inquiry, Secretary of the Navy Daniels expects to have a detailed report to-morrow on the landing of American sailors or marines at Trau, on the lower Dalmatian coast. The report will be sent to the Senate without delay, it is said. It will come from Rear Admiral Knapp, in command of the American naval forces in European waters, who has been in constant touch with the British Admiralty.

There are two phases of particular interest in connection with the incident. The first is what actually happened on the scene to cause Rear Admiral Knapp to send American bluejackets to the aid of the Italian and Yugoslav forces. The second is the alleged clash between the Italians and the Yugoslavs and turn the city of Trau over to the Yugoslavs after forcing withdrawal of the Italians. The other is why the War Council, acting presumably under the advice of the British Admiralty, ordered the American warships to preserve order in the area.

Under the war conditions, Marshal Foch has had command of the land forces and the British Admiralty has directed all naval operations. Because of its overwhelming dominance the British Navy is expected naturally to control all naval operations in Europe, especially in the event of the League of Nations covenant being ratified. This would, admittedly, mean that American warships in European waters would always be subject to British orders, it is explained.

JUGO-SLAVS REGARD WAR AS SALVATION

Seek Allied Intervention in Internal Affairs.

Rome, Oct. 1.—Despatches from Belgrade state that Jugoslav military circles, in discussing the possibility of war with Italy, expressed the hope that this would be the means of diverting the course of the internal situation in Jugoslavia, which is still serious, and compel allied intervention. Thus, it was expected by them that a solution of the Adriatic problem would be brought about.

Sympathy with Capt. Gabriele d'Annunzio is spreading among the regular Italian troops. Money and supplies continue to flow into Fiume.

The great bitterness between members of opposing political parties, which animated the recent elections in the Chamber of Deputies Sunday evening, would probably have resulted in more undignified scenes if Parliament had not been closed. The decree dissolving the Chamber came like a cold shower on the politicians, who will now transfer the struggle to their constituencies.

The coming elections promise to be the most closely contested of any ever held in Italy.

The best organized parties in the country are the Socialists and the Catholics, who expect to return to the Chamber a number of delegates considerably above those seated by the parties during the session just closed.

By the Associated Press.

Fiume, Sept. 30 (delayed).—Normal conditions have been restored at Spalato, where street fighting has occurred between Italians and Croats. Fighting between the two races is, however, reported quite bitter.

Capt. Gabriele d'Annunzio's army is in this city numbers 15,000 officers and men, according to information received from official sources. There are constant additions to this force from deserters who have left their units along the Adriatic line.

Men's Section—Third Floor

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LIQUOR IS IMMUNE IN ONE'S OWN HOME

May Be Served to Bona Fide Guests Under Prohibition Law.

ALCOHOL CONTENT FIXED

Penalty Does Not Apply to Making Cider and Fruit Juices.

WASHINGTON, Oct. 1.—Possession of any quantity of liquor in one's dwelling is lawful under the nationwide prohibition enforcement act as agreed on today by the Senate and House conferees.

Liquors may be served to bona fide guests when entertained in the dwelling, but the burden of proof as to their legal disposition is placed on the possessor in any court action concerning the same.

After weeks of consideration and attempts to compromise the Senate and House bills dealing with the enforcement of national prohibition, conferees appointed from the Senate and House Judiciary committees to-day made public their final agreement.

Classed as Intoxicating.

All liquors containing more than one-half per cent. of alcohol are classed as intoxicating. That part of the conference report reads:

"The words 'beer, wine or other intoxicating malt or vinous liquors' in the war prohibition act shall be hereafter construed to mean any such beverage which contains one-half of 1 per centum or more of alcohol by volume; provided that the foregoing definition shall not extend to de-alcoholized wine nor to any beverage or liquid produced by the process by which beer, ale, porter or wine is produced, if it contains less than one-half of 1 per centum of alcohol by volume and is made as prescribed in this act, and is otherwise denominated as beer, ale or porter and is contained and sold in or from such sealed and labeled bottles, casks or containers as the Commissioner (of Internal Revenue) may by regulation prescribe."

That part of the conference report dealing with the use of liquor in one's home reads:

"It shall not be unlawful to possess liquors in one's private dwelling which are the same as occupied and used by him as his dwelling only, and such liquor need not be reported, provided such liquors are for use only for the personal consumption of the owner thereof and his family residing in such dwelling and of his bona fide guests when entertained by him therein; and the burden of proof shall be upon the possessor in any action against the same to prove that such liquor was lawfully acquired, possessed and used."

Cider and Fruit Juices.

The provision of the bill as it passed the Senate which specifically provided that "the penalties provided in this act against the manufacture of liquor without a permit shall not apply to a person for manufacturing non-intoxicating cider and fruit juices exclusively for use in his home, but such cider and fruit juices may be sold and delivered to persons having permits to manufacture vinegar."

The penalty provision of the act as agreed upon by the conferees follows: "Any person who manufactures or sells liquor in violation of this title shall for a first offense be fined not more than \$1,000 or imprisoned for not exceeding six months, and for a second or subsequent offense shall be fined not less than \$200 nor more than \$1,000 and be imprisoned not less than one month nor more than six years."

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"Now information has been received, but not verified that the Shipping Board may rescind its order in relation to a forty-eight hour week. If this is true it will go a long way toward terminating the difficulty by letting employers negotiate with their employees. When official notice is received negotiations will be started and such men as are out will return to work in yards concerned."

Work Progresses Well.

In any event there was little interruption in shipbuilding in New York and New Jersey yards yesterday. Figures given out by union heads in the morning stated that 30,000 men did quit, then 30,000, then 40,000. By noon the most moderate of union estimates placed the number at 50,000. But in the yards a tally of the men who were working showed such decrease in the ranks. About 500 men were away from their posts in Staten Island yards, about three hundred in the New York yards and about a hundred in New Jersey.

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"There has been no strike order so far as I know, and if there has been, very few men have obeyed it. Certainly the situation is not general. Some men have gone out and some are wavering but the great majority of ship workers are still in the yards."

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THREATS OF STRIKE IN SHIPYARDS FAIL

Most of Those Who Do Not Appear Kept Away by Wet Weather.

LONGSHOREMEN REMAIN

Only About 1,000 Quit in Response to Order Calling Out 10,000.

The assertion made Tuesday night at a conference of union officials that by morning all shipyards in and about New York would be tied up by a strike in which 100,000 men would participate did not come true yesterday. Several hundred men failed to appear at their places in the yards, but many of these stayed away because there is never work for them in wet weather. About 1,000 longshoremen quit also. But those who did were the only response to an order calling out 10,000 of them to work out.

With the authority of the United States Shipping Board and in anticipation of a strike order from union heads, notices were posted in all New York and New Jersey shipyards on Tuesday afternoon warning men that there would be no work in hours or increase in pay, and that such men as walked out would not be taken back. The ship workers want a 35 per cent. increase in pay and a forty-four hour working week. The longshoremen make a less modest demand. They are receiving 65 cents an hour now. They want \$1 an hour, twice that figure for overtime and quadruple pay on Christmas and Labor Day.

There is little likelihood that a general shipyard strike, if one comes at all, will take place until after the general labor conference in Washington which will begin October 5. The ship workers have been promised that their demands will be given consideration and their leaders have been requested to wait until the general conference of the Shipping Board to wait till the conference is over.

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